

Tomoko FUKUDA^{1,*}, Toshifumi ADACHI² and Koh NAKAMURA³: **Chromosome Number of *Micranthes nelsoniana* var. *tateyamensis* (Saxifragaceae)**

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Summary: *Micranthes nelsoniana* (D.Don) Small var. *tateyamensis* (H.Ohba) S.Akiyama & H.Ohba is a red-listed plant, growing on rocky slopes in the central high mountains in Honshu, Japan with the elevation around 3000 m. In this study, this variety was studied cytologically for the first time. The chromosome number was counted to be $2n = 99\text{--}104$, which was the highest number ever reported for *M. nelsoniana*. Because of the rarity and cytological uniqueness, status of *M. nelsoniana* var. *tateyamensis* is suggested to be evaluated separately from *M. nelsoniana* var. *reniformis* in the red list of the Ministry of Environment, Japan.

Micranthes nelsoniana (D.Don) Small (= *Saxifraga nelsoniana* D.Don) is a species complex (Hultén 1973, Webb and Gornall 1989), occurring widely in circumboreal regions from Siberia to North America (Webb and Gornall 1989). We have two varieties of *M. nelsoniana* (D.Don) Small in Japan: var. *reniformis* (Ohwi) S.Akiyama & H.Ohba, which occurs in Hokkaido, Japan, and Sakhalin plus the Kuril Islands, Russia (Ohwi 1933, as *Saxifraga reniformis* Ohwi; Akiyama et al. 2012) and var. *tateyamensis* (H.Ohba) S.Akiyama & H.Ohba, growing in the central high mountains in Honshu, Japan (Ohba 1993, as *Saxifraga nelsoniana* D. Don; Akiyama et al. 2012). The variety *tateyamensis* is suggested to be the remnant of the range expansion of var. *reniformis* during the latest glacial period

(Ohba 1993).

The occurrence of *S. reniformis* in Honshu was first reported by Shirahata (1982), with a photograph of the flower taken in Mt. Yarigatake in the Northern Japan Alps. In 1988, the plant on the Tateyama mountains, Toyama prefecture, was reported as *S. punctata* L. subsp. *reniformis* (Ohwi) Hara (Yamazaki 1989). Ohba (1993) described it as a new variety *S. nelsoniana* D.Don var. *tateyamensis* H.Ohba based on the type specimen collected in 1992.

Saxifraga nelsoniana var. *reniformis* is red-listed at IB (EN) rank by the Ministry of the Environment (2015, 2020), but *S. nelsoniana* var. *tateyamensis* is not mentioned. The latter variety seems to be included in var. *reniformis*, as Toyama and Nagano are listed as its distribution areas. In these prefectures, var. *tateyamensis* is red-listed at II (VU) rank in Toyama prefecture (2012) and IB (EN) in Nagano prefecture (2014).

Micranthes nelsoniana is cytologically highly variable, including high chromosome numbers ranging from $2n = 26$ to 84 (Fukuda et al. 2016). The chromosome number of *M. nelsoniana* var. *reniformis* was reported as $2n = 26$ from southern Sakhalin (Fukuda et al. 2016), $2n = 50$ from Mt. Rishiri, Hokkaido (Funamoto & Nakamura 1996, as *S. punctata* ssp. *reniformis*) and $2n = 80$ from Mt. Taisetsu-zan, Hokkaido (Fukuda and

Zhukova P.G. and Petrovsky V.V. 1987. Karyotaxonomic study of some species of the genus *Saxifraga*

(*Saxifragaceae*) from northern Asia. Bot. Zhurn. 72: 632–640 (in Russian).

福田知子¹, 足立敏文², 中村 剛³: タテヤマイワブキ (ユキノシタ科) の染色体数

タテヤマイワブキ *Micranthes nelsoniana* (D. Don) Small var. *tateyamensis* (H. Ohba) S. Akiyama & H. Ohba の染色体数は $2n=99-104$ と推定された。この数は、広義シベリアイワブキ *M. nelsoniana* (D. Don) Small の中で最大であり、利尻山 ($2n=50$), 大雪山 ($2n=80$) のチシマイワブキ var. *reniformis* (Ohwi) S. Akiyama & H. Ohba の染色体数とも異なっていた。細胞学的な特異性に加え、タテ

ヤマイワブキの個体数は少なく且つ減少していると推定されることから、保全のための現状調査が必要である。

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